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13 March 1959

DIRECTOR OF CENTRAL INTELLIGENCE

Briefing of

Preparedness Investigating Subcommittee
Senate Armed Services Committee

Wednesday, 18 March 1959

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RECENT NATIONAL INTELLIGENCE ESTIMATES ON SOVIET ICBM CAPABILITIES

A. Will begin this briefing by responding to several questions raised during testimony on 4 February --- clarify record.

B. Committee asked for chronology of national estimates on Soviet ICBM capabilities, and reasons for changes made.

See CHART.

C. General points about chart.

1. Numbers on chart refer to operational capabilities, meaning:

   a. number of ICBMs shown have been deployed to completed launching facilities;

   b. operating personnel trained and assigned;

   c. logistic and other support established.

2. Total missiles produced would be greater than numbers shown, to allow for testing, training, wastage, but missile production still only a fraction of the effort involved.

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3. Estimates represented on chart distributed to authorized recipients in Executive Branch (White House, National Security Council, Department of Defense, etc.) and have formed basis for Congressional briefings.

D. 26 - 27 November 1957 (briefing)

1. Estimate in process, spread of opinion within intelligence community given.

2. CIA favored earlier dates.

E. 10 December 1957 (special ICBM estimate)

1. Estimate followed Soviet launching of 2 ICBMs, 2 Sputniks in period of 2 1/2 months.

2. All agencies agreed to earlier portions of spread given in November.

3. Estimated that 500 capability achievable in two, possibly three years after first operational capability.

F. 20 May 1958 (revision of above)

1. Tests had continued, but at slower rate than expected.

2. Probable date of first operational capability moved back 6 months, earlier period retained as possibility.

3. This automatically moved back probable times for 100 and 500.

G. 19 August 1958 (annual missile estimate)

1. No change.

H. 25 November 1958 (revision of above).

1. Complete re-examination by intelligence community and consultants.

2. No successful tests since May.

3. Possibility of operational capability in latter 1958 downgraded to "extremely unlikely."

4. No change in probable first operational capability in 1959, because of long Soviet ballistic missile experience and earlier successes.

5. Probable time to achieve 500 capability shifted from two years to three after re-examining magnitude of tasks involved in such a buildup. Two years retained as possibility.

6. This estimate distributed to Executive Branch recipients on 1 December 1958.

I. 23 December 1958 (annual Soviet estimate).

1. Essentially the same as 25 November estimate, except "extremely" deleted.

2. Explanatory note added calling attention to Soviet statements at Geneva and to our uncertainty about Soviet ICBM test philosophy.

J. New evidence of activity on long test range since 4 February.

1. In six weeks since last briefing, Soviets have had one more successful ICBM firing to 3,500 nautical miles, and one other attempt to fire.

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2. Brings total operations on this test range since August 1957 to 19 :

7 successful ICBM

4 other ICBM attempts

3 earth satellites orbited

1 space vehicle to vicinity of moon

4 other space vehicle attempts

19

3. Expect additional firings at any time.

K. December estimate re-affirmed by majority of USIB at meeting last week.

1. All members remain concerned about small number of firings.

2. Navy member now feels first operational capability will not occur before late 1959 or possibly 1960.

FURTHER COMMENT ON SENATOR SYMINGTON'S LETTER

A. Letter to the President of 29 August 1958 inserted in Committee record on 4 February.

B. Do not wish to go back over points discussed earlier, and hope today's briefing has fully clarified time periods in our estimate of Soviet ICBM capabilities, as well as changes in estimates and reasons for changes.

C. However, I wish to note that letter describes two "sources" with information vastly different from that available anywhere in intelligence community, namely:

1. Many more Soviet firings to 3500 miles than we reported.

2. Thermonuclear tests accomplished as part of IRBM and ICBM firings.

3. Pin-pointing of launching sites in Murmansk and Kamchatka areas.

D. Have again re-examined all aspects of Soviet ICBM problem since Senator Symington introduced letter into record.

1. Have found no confirmation of information reported by Senator's "sources."

2. Would welcome any evidence bearing on information reported by "sources."

3. This of course applies to any new evidence on Soviet ICBM program from any source.

E. Entire ICBM problem retains highest intelligence collection priority.

STATEMENT ON 700 AND 1,100 MILE MISSILES

A. Question raised by Committee on 4 February regarding apparent differences between General Twining and DCI on Soviet operational capabilities with 700 and 1,100 nautical mile missiles.

B. DCI's statement based on last December's national estimate, which USIB asked its guided missile subcommittee to re-check in mid-February.

C. Committee's report essentially confirms December estimate and 4 February briefing. Concludes:

> "On the basis of available intelligence we cannot judge the present scale of production and we have not identified any units equipped with these missiles. However, considering such factors as estimated Soviet requirements, availability of nuclear materials for warheads, and experience in shorter range missiles, we believe that the USSR may now have an operational capability with as many as several hundred ballistic missiles of 700 nautical miles range, and with a few 1100 nautical mile missiles. Until additional intelligence becomes available, we have no basis for more precise estimates on the numbers of these weapons."

D. Note, however, we now have evidence that 1,100 mile missile is new weapon, rather than modification of 700 mile missile as previously believed.

a. Represents greater R and D problem for Soviets

b. Therefore believe could have become operational only in latter part of 1958, rather than at any time during year.

LONG RANGE AVIATION

A. Long Range Bomber Force has approximately 1450 to 1475 bombers -- 400 BULL (B-29 type) -- 950 BADGER jet medium (B-47 type) -- 100-125 BISON jet (B-52 type) and BEAR turbo-prop heavy.

B. Capabilities increased by better training, inflight refueling, nuclear storage sites at many Long Range bases.

1. But still consists primarily of medium bombers -- best suited for operations in Eurasia.

2. Capable of large-scale attack on US only through extensive use of one-way missions by BADGERS.

3. Small heavy bomber force has two-way capability.

4. Build up of heavy bomber strength less than we expected.

5. Planners probably decided to forego rapid build up of present models -- may reflect confidence in creating ICBM capability, dissatisfaction with BISON, BEAR.

C. Total remains about as previously estimated -- Committee told about 1500 in November 1957.

1. November 1957 estimate of up to 150 heavy bombers was slightly high -- reduced on better evidence.

2. BADGER total has increased by about 100 from 850 in November 1957 -- production rate now decreasing, however.

D. Jet medium bombers now also assigned to Tactical and Naval Aviation -- total of at least 350.

E. New model -- BOUNDER -- being designed and developed but probably not in production.

1. Of large size and heavy weight, with modified delta-wing configuration, but probably not intercontinental with present jet engines.

2. Long fuselage forward of wing leads some members of intelligence community to believe BOUNDER may be developmental step toward nuclear-powered aircraft, but majority believe this unlikely.

a. If BOUNDER proves to be such a step, believe long period of development and modification needed prior to operational availability.

3. Irrespective of BOUNDER, believe that within next few years USSR could fly airborne nuclear test bed, with nuclear power providing some useful thrust, possibly as a propaganda "stunt".

AIR-TO-SURFACE MISSILES

(carried by bombers)

A. Now operational

1. USSR has operational a subsonic air-to-surface missile system with range of about 55 n.m.

   a. This missile is designed for employment against ships.

   b. Use against less well-defined targets (on land) would require a different guidance system, of which no evidence to date.

2. The BADGER jet medium bomber is the primary carrier for this missile.

   a. One or two of these missiles can be carried externally on one BADGER -- aircraft performance would be seriously degraded with two.

   b. Several units of Naval and Long Range Aviation probably have these.

B. Future

1. In 1960-1961, we estimate that the USSR will have operational a longer-range, supersonic air-to-surface missile.

a. Will probably be a general use missile, including land targets.

b. Some evidence of developmental work along these lines.

c. Have estimated range of this missile as at least 100 nautical miles -- new evidence indicates probably considerably more range than this.

SOVIET SUBMARINE FORCES

A. Present submarine strength -- 440-- more than half snorkel-equipped long-range postwar design. Total reduced by 35 since November 1957 because of retirement of older subs.

1. Present strength more than 8 times strength with which Germany entered World War II.

2. Estimate 290 subs constructed since 1950.

3. Few constructed in past year, probably reflecting change-over to new types.

4. New class beginning 1958 -- large torpedo attack type with better sonar.

B. Submarine-launched missiles

1. Capability <u>now</u> to launch subsonic cruise-type missiles from few converted subs.

2. Range with nuclear warheads about 200 n.m. from sub on the surface - <u>not submerged</u>.

a. In November 1957, maximum range estimated at 500 miles, but effective guidance range considered 200.

b. Now have evidence that this missile probably has low altitude cruise capability -- around 1,000 feet.

3. Some recent evidence on a sub-launched ballistic missile program.

a. At least five Soviet long-range submarines have been greatly modified - possibly to carry ballistic missiles.

b. Preliminary analysis suggests submarines might each carry two ballistic missiles having a 100-200 n.m. range, with payload of 1,000 lbs.

c. Believe for surface launching only.

d. Would give USSR a limited operational capability as well as R and D experience for later, improved systems.

4. Longer-range submarine-launched ballistic missile probable 1961-1963.

a. Deliver nuclear warhead about 1,900 n.m. from submerged sub.

b. Earliest date advanced from 1964, the earliest date given Committee in November 1957.

C. Nuclear powered sub program probably under way.

1. Nuclear powered icebreaker LENIN probably operational this year. Three nuclear reactors -- could be redesigned for use singly in submarine.

2. May already have commissioned one or more of these -- firm evidence lacking.

3. Recent covert report refers to a Soviet program for about 10 nuclear-powered submarines.

NUCLEAR WEAPONS

A. More than 70 tests since August 1949 (42 when Committee briefed in November 1957)

25X9A3

[redacted]

2. Latest tests low yield weapons at NY, early November.

3. Tests show development of high yield weapons for bombs and missiles -- Low yield weapons for air defense and economy of fissionable material.

4. Stockpile - 2KT to 8 MT. Possibly untested 20 MT bombs in stockpile on an emergency basis.

AIR DEFENSE

A. Jet fighters remain backbone of air defense system.

1. Total in units in Bloc more than 14,000, of which over 10,000 are in Soviet units.

a. Same total as held for last year or two -- newer types replacing older.

2. Nearly 2,000 all-weather types now in Bloc units (about 1750 of them in Soviet units).

a. Of these, about half have limited all-weather capability (mainly FRESCO versions with radar), rest are true all-weather types (FLASHLIGHT).

3. Soviet units have about 1200 supersonic FARMER dayfighters in units, newer delta-wing models in production.

B. Moscow still principal area defended by surface-to-air missiles (very heavy concentration in complex of 56 sites). (See Chart).

1. Moscow defenses also include about 1,375 jet fighters and 700 AA guns.

2. A few other targets probably now being equipped with cheaper, more flexible missile defense -- expect continuing trend.

C. Major improvement in past year has been in air defense control system.

1. Control system with semi-automatic features (somewhat similar to SAGE) now being widely deployed in Western USSR.

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~~SURFACE-TO-AIR~~
AND
AIR-TO-AIR MISSILES
(for air defense)

A. Surface-to-Air.

1. USSR now has available two different types of surface-to-air missiles.

   a. One is employed in the fixed missile complex around Moscow.

   b. The other appears suitable for use with the Moscow system or with a semi-mobile system.

2. Both have greatest effectiveness against aircraft at altitudes of 30,000 to 60,000 feet.

   a. Are relatively short range (15-30 n. m.).

   b. Almost certainly are ineffective at very low altitudes (below 1500 feet).

3. These missiles, used in point defense as at Moscow, could not intercept plane carrying HOUND DOG before it launched its missile (launching range for HOUND DOG is 200 to 450 miles from target, depending on altitude).

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a. Could engage HOUND DOG itself at high altitude (its high altitude capability is 55,000 feet) but might have difficulty at low altitude of 1,500 feet.

b. Have no basis for estimate of kill probability against HOUND DOG.

4. During 1959-1961 systems with increased range and improved high and low altitude capabilities will probably become operational for defense of fixed targets, field forces, and naval vessels.

a. Some systems should have low altitude capability down to 50 feet (1959-1960).

b. Others should have high altitude capability to 90,000 feet (1960-1961).

c. Will improve Soviet capability against both aircraft and cruise-type missiles, including HOUND DOG.

5. In 1963-1966 the USSR will probably achieve a first operational capability with a surface-to-air system of limited effectiveness against ICBMs and possibly against IRBMs.

B. Air-to-Air.

1. Short range air-to-air missiles (up to 6 n.m.) with HE warheads are probably now available -- but no evidence of operational use. A longer-range missile (15-20 n.m.) capable of carrying nuclear warheads probably be developed by 1963.